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AMERICAN MATHEMATICAL SOCIETY

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Notices

Edited by J. H. CURTISS

ISSUE NO. 26 *OCTOBER, 1957*

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Published by the Society

ANN ARBOR, MICHIGAN and PROVIDENCE, RHODE ISLAND

Printed in the United States of America

AMERICAN MATHEMATICAL SOCIETY
190 Hope Street

Entered as second class matter at the postoffice at Ann Arbor, Michigan

CALENDAR OF MEETINGS

NOTE: This Calendar lists all of the meetings which have been approved by the Council up to the date at which this issue of the NOTICES was sent to press. The meeting dates which fall rather far in the future are subject to change. This is particularly true of the meetings to which no numbers have yet been assigned.

Meeting No.	Date	Place	Deadline for Abstracts
539	November 15-16, 1957	Los Angeles, California	Oct. 2
540	November 29-30, 1957	Coral Gables, Florida	Oct. 2
541	November 29-30, 1957	Columbia, Missouri	Oct. 2
542	January 28-30, 1958 (64th Annual Meeting)	Cincinnati, Ohio	Dec. 13
543	February 22, 1958	New York, New York	Jan. 9
544	April 18-19, 1958	Chicago, Illinois	Mar. 5
545	April 18, 1958	Stanford, California	Mar. 5
546	April 25-26, 1958	New York, New York	Mar. 5
547	June 20, 1958	Corvallis, Oregon	May 7
548	August 25-30, 1958 (63rd Summer Meeting)	Cambridge, Massachusetts	July 11
	November, 1958	Evanston, Illinois	
	January 20-22,1959 (65th Annual Meeting)	Philadelphia, Pennsylvania	
	November, 1959	Detroit, Michigan	

The NOTICES of the American Mathematical Society is published seven times a year, in February, April, June, August, October, November, and December. Inquiries should be addressed to the American Mathematical Society, Ann Arbor, Michigan, or 190 Hope Street, Providence 6, R. I.

Entered as second-class matter at the post office at Ann Arbor, Michigan. Authorization is granted under the authority of the act of August 24, 1912, as amended by the act of August 4, 1947 (Sec. 3421, P. L. and R.). Accepted for mailing at the special rate of postage provided for in section 34-40, paragraph (d).

News Items and Announcements should be sent to NOTICES of the American Mathematical Society, 190 Hope Street, Providence 6, R. I.

FIVE HUNDRED THIRTY-EIGHTH MEETING

Washington, D. C.

October 26, 1957

PROGRAM

The five hundred thirty-eighth meeting of the American Mathematical Society will be held at the National Bureau of Standards, Washington, D. C. on Saturday, October 26, 1957. All times given below are Eastern Daylight Saving Time (Washington, D. C., returning to Eastern Standard Time at 2:00 A. M., Sunday, October 27).

By invitation of the Committee to Select Hour Speakers for Eastern Sectional Meetings, Professor W. H. Gottschalk of the University of Pennsylvania will give an hour address entitled "Minimal sets: an introduction to topological dynamics" at 2:00 P. M. in the East Building Lecture Hall.

Sessions for contributed papers will be held at 10:00 A. M. and at 3:15 P. M.

A registration desk will be maintained on the fourth floor of the East Building, in the hallway approaching the East Lecture Hall. Maps of the Bureau grounds and a list of nearby restaurants will be available at the registration desk.

The South Building Conference Room will be available for informal discussions.

The National Bureau of Standards is located at Connecticut Avenue and Van Ness Streets, N. W., in the northwest part of the city. The entrance gate at this location is the most convenient; on Saturday other gates are closed. The Bureau is accessible by automobile via Alternate D. C.-U. S. Route 240 along Connecticut Avenue or via Route 240 along Wisconsin Avenue to Van Ness Street, by Capital Transit bus L2 or L4 along Connecticut Avenue, or by taxicab. It is about a 20-minute taxicab ride from Union Station in downtown Washington or about a 30 minute ride from National Airport. Directions for approaching the East Building may be obtained at the Bureau Guard Office on Van Ness Street near Connecticut Avenue. A parking area is located near the East Building; additional parking space is available along Van Ness Street.

Mail and telegrams for those attending the meeting should be addressed in care of the American Mathematical Society Meeting, Room 415, South Building, National Bureau of Standards, Connecticut Avenue and Van Ness Street, Washington, D. C.

PROGRAM OF THE SESSIONS
(Time limit for each contributed paper, 10 minutes)

SATURDAY 10:00 A. M.

Session on Analysis, East Building Lecture Hall

(1) Stability of quasi-linear difference equations
Mr. J. W. Smith, Columbia University

(2) The decrease of fundamental solutions of parabolic equations with distance from the initial singularity
Professor J. F. Nash, Massachusetts Institute of Technology

(3) Differential operators on homogeneous Riemannian spaces
Professor Sigurdur Helgason, University of Chicago

(4) A boundary layer result for an N-dimensional linear elliptic equation
Professor V. J. Mizel, University of Tennessee

(5) A note on nonlinear oscillations
Professor C. T. Taam, Catholic University of America

(6) The eigenvalues as monotonic matrix functions
Professor P. D. Lax, New York University

(7) On the existence of real eigenvalues for a non-self-adjoint boundary-value problem
Brother A. N. Mc Cauley, Catholic University of America and De La Salle College
(Introduced by Professor C. T. Taam)

(8) A variational method for starlike functions
Professor J. A. Hummel, University of Maryland

Session on Applied Mathematics, Statistics and Probability, Materials Testing Laboratory Lecture Hall

(9) Continuous Poker
Mr. J. J. Stone and Dr. A. J. Goldman, National Bureau of Standards, Washington, D. C.

(10) On the numerical evaluation of improper integrals
Dr. J. F. Vandrey, The Martin Company, Baltimore, Maryland
(Introduced by Dr. Gus DiAntonio)

(11) On generalized Newtonian mechanics
Professor Domina E. Spencer, University of Connecticut

(12) The decay of a vortex under the influence of viscosity
Dr. M. A. Dengler, AiResearch Manufacturing Company of Arizona, Phoenix, Arizona

(13) The principle of Babinet
Professor R. C. MacCamy, Carnegie Institute of Technology

(14) Integral equations of the Schwarzchild-Milne type
Dr. P. M. Anselone, Johns Hopkins University Radiation Laboratory

(15) On the group iteration and group overrelaxation methods of solving a system of linear equations
Dr. P. E.Zadunaisky, University of Buenos Aires and Watson Laboratory, Columbia University.
(Introduced by Dr. W. J. Eckert)

(16) On the Monte Carlo solution of simultaneous linear equations
Professor Valdemars Punga, Rensselaer Polytechnic Institute

Session on Topology and Geometry, Chemistry Building Lecture Hall

(17) A theorem on quasi-compact mappings
Mr. Paul McDougle, University of Virginia
(Introduced by Professor E. E. Floyd)

(18) An algorithm for a minimum cover of a graph
Professor R. Z. Norman, Dartmouth College, and
Dr. M. O. Rabin, Princeton University

(19) Uniform shrinkability in topological vector spaces
Dr. R. V. Ives, University of Virginia

(20) Abel's theorem for zero-cycles on algebraic varieties
Dr. Arthur Mattuck, Massachusetts Institute of Technology

(21) Relations between mean curvature and conformal type
Professor Robert Osserman, Stanford University

(22) Pencils of null systems
Professor Seymour Schuster, Polytechnic Institue of Brooklyn

(23) Projective geometrical aspects of Laguerre-Forsyth canonical form
Rev. F. A. Homann, S. J., University of Pennsylvania

SATURDAY, 2:00 P. M.

General Session, East Building Lecture Hall

Minimal sets: an introduction to topological dynamics (One hour)
Professor W. H. Gottschalk, University of Pennsylvania

SATURDAY, 3:15 P. M.

Session on Analysis, East Building Lecture Hall

(24) Complex manifolds with a group of holomorphic automorphisms
Dr. Harald Holmann, Ohio State University

(25) On Nakano spaces
Dr. Sadayuki Yamamuro, Institute for Advanced Study

(26) On the local geometry of Teichmueller spaces. I. Preliminary report
Professor Saul Kravetz, Johns Hopkins University

(27) Extreme limits and Tauberian theorems
Dr. L. A. Rubel, Institute for Advanced Study

(28) A characterization of L^p spaces
Dr. M. H. M. Esser, University of Maryland

(29) Chebychev approximation in locally compact spaces
Dr. Joseph Bram, Navy Department, Bureau of Ships, Washington, D. C.

(30) Short proof of a theorem by Riquier
Mr. L. B. Robinson, Baltimore, Maryland

Session on Algebra and Theory of Numbers, Logic and Foundations, Chemistry Building Lecture Hall

(31) Norm residue symbol in cyclotomic fields
Professor B. M. Dwork, Johns Hopkins University

(32) Invariants of a free Lie ring
Dr. M. D. Burrow, New York University and McGill University

(33) Prime ideals in rings of continuous functions. Preliminary report
Dr. C. W. Kohls, Columbia University

(34) Rational extensions of modules
Dr. G. D. Findlay and Professor Joachim Lambek, McGill University

(35) Incidence algebras
Mr. E. C. Dade and Dr. Karl Goldberg, National Bureau of Standards, Washington, D. C.

(36) On the powers of a real number reduced modulo one
Mr. Fred Supnick and Dr. H. J. Cohen, City College of New York

(37) On Slupecki T-functions
Professor Trevor Evans and Miss Petee B. Schwartz, Emory University

(38) The functional equation in finite Boolean algebras
Dr. R. S. Ledley, National Bureau of Standards, Washington, D. C.

SUPPLEMENTARY PROGRAM
(To be presented by title)

(39) On the non-existence of elements of Hopf invariant one mod p
Dr. J. F. Adams, Trinity College
(Introduced by Professor Saunders MacLane)

(40) The Riesz property of a partially ordered linear space
Professor R. C. Buck, University of Wisconsin

(41) The algebra of bounded analytic functions
Professor R. C. Buck, University of Wisconsin

(42) The factorial function for isols
Dr. J. C. E. Dekker, Institute for Advanced Study

(43) The spectra of multiplier transforms on l^p
Professor Allen Devinatz and Professor I. I. Hirschman, Jr., Washington University

(44) Multiplier transforms on $l^{2,\alpha}$
Professor Allen Devinatz and Professor I. I. Hirschman, Jr., Washington University

(45) A note on the Gauss-Green theorem
Professor Herbert Federer, Brown University

(46) A procedure for the diagonalization of normal matrices
Dr. H. H. Goldstine, Institute for Advanced Study, and Mr. L. P. Horowitz, International Business Machines Corporation, Yorktown Heights, New York

(47) On the projective groups of lines
Dr. J. S. Griffin, Jr. and Professor J. E. McLaughlin, University of Michigan

(48) Some notes on torsion-free abelian groups
Dr. D. K. Harrison, Brown University

(49) On a theorem of Sidon
Professor Sigurdur Helgason, University of Chicago

(50) Mean value theorems on symmetric spaces
Professor Sigurdur Helgason, University of Chicago

(51) Homology and ringoids. I
Dr. P. J. Hilton and Dr. Walter Ledermann, University of Manchester
(Introduced by Professor Saunders MacLane)

(52) Homology and ringoids. II
Dr. P. J. Hilton and Dr. Walter Ledermann, University of Manchester
(Introduced by Professor Saunders MacLane)

(53) Extendable sentential calculus
Professor Henry Hiz, Pennsylvania State University

(54) Note on perfect difference sets
Professor B. W. Jones and Professor Sarvadaman Chowla, University of Colorado

(55) Complemented lattices in universal algebra
Dr. J. A. Kalman, Auckland University College

(56) On a method of mapping due to Kadec and Bernstein
Professor V. L. Klee, Jr., University of Washington, and Dr. R. G. Long, Wesleyan University

(57) Extension of an effectively generated class of functions by enumeration
Professor S. C. Kleene, University of Wisconsin

(58) On the generalized correlation between vectors. Preliminary report
Professor A. G. Laurent, Michigan State University and Wayne State University

(59) An order function for analytic mappings of complex manifolds into projective space. Preliminary report
Dr. H. I. Levine, University of Chicago

(60) On the cohomology ring of sphere bundles
Professor W. S. Massey, Brown University

(61) On the non-imbeddability of certain manifolds in Euclidean space
Professor W. S. Massey, Brown University

(62) On the second obstruction in 2-sphere bundles
Professor W. S. Massey, Brown University

(63) A criterion for the existence of non-linear entire solutions of elliptic equations
Professor J. C. C. Nitsche, University of Minnesota, and Dr. Joachim Nitsche, Freie Universitaet Berlin-Dahlem

(64) Extending germs of diffeomorphisms
Dr. R. S. Palais, University of Chicago

(65) Natural operations on differential forms
Dr. R. S. Palais, University of Chicago

(66) Diffraction by a quarter-plane
Mr. James Radlow, New York University
(Introduced by Professor Morris Kline)

(67) Inequalities of compound and induced matrices with applications to combinatorial analysis
Professor H. J. Ryser, Ohio State University

(68) On estimating partial differential operators. III
Dr. Martin Schechter, New York University

(69) On a representation of commuting monoids
Dr. M. P. Schutzenberger, Massachusetts Institute of Technology

(70) Singularly perturbed integral equations
Mr. Marvin Shinbrot, National Advisory Committee for Aeronautics, Moffett Field, California

(71) On the amalgamation of two methods for the solution of integral equations

Mr. Marvin Shinbrot, National Advisory Committee for Aeronautics, Moffett Field, California

(72) Lower bounds for higher eigenvalues by finite difference methods

Professor H. F. Weinberger, University of Wisconsin

(73) An extremum problem

Dr. Harold Widom, Cornell University

R. D. Schafer
Associate Secretary

Storrs, Connecticut
September 12, 1957

PRELIMINARY ANNOUNCEMENTS OF MEETINGS

FIVE HUNDRED THIRTY-NINTH MEETING

LOS ANGELES, CALIFORNIA
November 15-16, 1957

The five hundred thirty-ninth meeting of the American Mathematical Society will be held on Friday and Saturday, November 15-16, 1957, at the University of California, Los Angeles.

The Society will sponsor a Symposium on Game Theory on Friday, with sessions from 9:00 to 11:30 A.M., 1.00 to 2:30 P.M., 3:00 to 5:00 P.M., and 7:00 to 8:00 P.M. The symposium will include half-hour talks by Melvin Dresher, David Gale, H. M. Gurk, J. R. Isbell, Samuel Karlin, Harold W. Kuhn, R. Duncan Luce, R. A. Restrepo, H. E. Scarf, L. S. Shapley, Patrick Suppes, S. M. Ulam, and P. S. Wolfe, and a panel discussion of future research directions of game theory. Further information concerning the symposium can be obtained from Professor David Blackwell, University of California, Berkeley, California.

By invitation of the Committee to Select Hour Speakers for Far Western Sectional Meetings, there will be an address on "Recent developments in the theory of wave motion" by Professor Harold Levine of Stanford University, on Saturday morning.

Sessions for contributed papers will be held Saturday afternoon.

All sessions will be held in the new Mathematical Sciences Building. The registration desk and the Employment Register will be in the Mathematics Department Offices, Room 6115 Mathematical Sciences Building.

Information concerning travel, hotels, and restaurants can be obtained from the Secretary, Department of Mathematics, University of California, Los Angeles 24, California.

Abstracts of contributed papers should be sent to the American Mathematical Society, 190 Hope Street, Providence 6, Rhode Island, so as to arrive not later than the deadline, October 2, 1957. By the time this issue of the NOTICES reaches the membership, this deadline will probably have passed. Therefore the deadline is being announced in a special mailing to the membership.

V. L. Klee, Jr.
Associate Secretary

Seattle, Washington
September 12, 1957

FIVE HUNDRED FORTIETH MEETING

CORAL GABLES, FLORIDA
November 29-30, 1957

The five hundred fortieth meeting of the American Mathematical Society will be held at The University of Miami, Coral Gables, Florida, on November 29-30, 1957, in the Memorial Classroom Building. By invitation of the Committee to Select Hour Speakers for Southeastern Sectional Meetings, Professor A. H. Clifford of Newcomb College, Tulane University, will give an hour address entitled "Totally ordered commutative semigroups". Sessions for contributed papers will be held Friday afternoon and Saturday morning. There will be a banquet Friday evening. Coffee will be served throughout the meeting in the registration room. Conveniently located classrooms and lounges will be available for informal conferences. Meals may be had at the nearby cafeteria.

Banquet reservations should be made by card or letter to Professor G. Del Franco, Department of Mathematics, University of Miami, Coral Gables, Florida, and should reach him by November 25. The price is $2.50 per person. Reservation for rooms should be made directly with the chosen hotel or motel. Numerous facilities are available in Coral Gables and Miami, but reservations should be made as soon as possible. The following (conveniently located) have agreed to reserve a generous amount of space for Society members provided reservation is requested by NOVEMBER 1 and the Society is mentioned:

Antilla Hotel, 111 Ponce De Leon Boulevard, Coral Gables, Florida. Rates are $10 per day, single or double.

University Court Motel, 1390 S. Dixie Hiway, Coral Gables, Florida. (Dixie Hiway is U. S. Highway 1.) Rates are $11 per day for one or two, and $1.50 additional for a third person.

Coral Gables is just west of Miami, and there is adequate bus service. Convenient parking facilities will be available in the Faculty parking lot between Ashe Administration and Memorial Classroom buildings. Further details will appear in the November NOTICES, along with the program.

Abstracts of contributed papers should be sent to the American Mathematical Society, 190 Hope Street, Providence 6, Rhode Island, so as to arrive not later than the deadline, October 2, 1957. By the time this issue of the NOTICES reaches the membership, this deadline will probably have passed. Therefore the deadline is being announced in a special mailing to the membership.

J. H. Roberts
Associate Secretary

Durham, North Carolina
September 3, 1957.

FIVE HUNDRED FORTY-FIRST MEETING

COLUMBIA, MISSOURI
November 29-30, 1957

The five hundred forty-first meeting of the American Mathematical Society will be held at the University of Missouri, Columbia, Missouri, on Friday and Saturday, November 29 and 30, 1957. Sessions will begin at 10:30 A.M. Friday.

The Committee to Select Hour Speakers for Western Sectional meetings has invited Daniel Zelinsky to give an hour address. The address will be presented in Room 100 Stewart Hall.

Sessions for the presentation of contributed papers will be held at 10:30 A.M., and 3:15 P.M. on Friday, and 10:00 A.M. on Saturday. If necessary, there will be special sessions for the presentation of contributed papers which failed to meet the deadline. If such sessions are held, they will be publicized by a special program available at the registration desk.

Members of the Society and their friends are invited to a tea which will be held immediately following the sessions on Friday afternoon in the Student Union. A dinner is planned for Friday night.

The registration desk will be located in the lobby of Stewart Hall, which is located east of the Student Union on Hitt Street. Parking will be available in University parking lots across Hitt Street from the Student Union. Those who attend the meetings are requested to register at any time from 9:30 A.M. until noon and from 1:00 to 5:00 P.M. on Friday, and 9:30 A.M. until noon on Saturday.

There follows a list of hotels and motels, with their minimum prices. Those desiring reservations are urged to make early reservations directly with the hotel or motel. The hotels are within walking distance of Stewart Hall. The motels are on Highway 40 about 2 to 3 miles from the campus.

	Single	Double
Daniel Boone Hotel	$4.50	$7.50
Tiger Hotel	4.50	7.50
El Don Motel	6.00	6.50
Show-Me Motel	6.00	7.50
Arrow Head Motel	5.00	6.00
Pennant Motor Inn	4.00	7.00
Travelier Motel	6.00	10.00

Mail and telegrams for those attending the meeting may be sent in care of the Mathematics Department, 210 Engineering Building, University of Missouri, Columbia, Missouri.

All sessions in Stewart Hall.

Abstracts of contributed papers should be sent to the American

Mathematical Society, 190 Hope Street, Providence 6, Rhode Island, so as to arrive not later than the deadline, October 2, 1957. By the time this issue of the NOTICES reaches the membership, this deadline will probably have passed. Therefore the deadline is being announced in a special mailing to the membership.

J. W. T. Youngs
Associate Secretary

Bloomington, Indiana
September 12, 1957

NEWS ITEMS AND ANNOUNCEMENTS

FELLOWSHIP AND RESEARCH OPPORTUNITIES IN MATHEMATICS DURING THE YEAR 1958-1959. The Division of Mathematics of the National Academy of Sciences-National Research Council has issued the following announcement concerning fellowship and research opportunities during the year 1958-1959. The announcement is intended to provide only a partial list of the various opportunities which are available.

1. National Science Foundation. The National Science Foundation sponsors various fellowship programs in the sciences, including mathematics.

Predoctoral fellowships are awarded annually at the First Year, Intermediate, and Terminal Year levels of graduate study. Applications for 1958-1959 will be available in October 1957 from the National Academy of Sciences-National Research Council until the closing date in early January 1958; Award date--March 15, 1958.

Science Faculty fellowships for college science teachers (including mathematics) who plan to continue teaching and wish to increase their competence as teachers are at the present time offered semi-annually. Eligibility requirements include a baccalaureate degree and three (3) years of full-time experience in teaching natural science subjects at the collegiate level. The program will be opened to application in October 1957; and closed early in January 1958. Awards will be made on March 20, 1958. The program will also be reopened the following summer. Address all inquiries for information and applications to National Science Foundation, Division of Scientific Personnel and Education, Washington 25, D. C.

Postdoctoral fellowships (in making inquiry about postdoctoral awards specify program).

(1) Regular postdoctoral fellowships--primarily for recent recipients of the doctoral degree; awarded semi-annually. Program for 1958-1959 concurrent with predoctoral program (see above) except that program closes in December. Information and applications will be available from NAS-NRC. The program will also be open from July to early September 1958. Awards are announced in March and October.

(2) Senior postdoctoral fellowships--are open to persons who have held a doctoral degree in one of the basic fields of science for a minimum of five (5) years at time of application, or who have had equivalent training and experience. Awarded semi-annually. Applications are available from the National Science Foundation, Division of Scientific Personnel and Education, Washington 25, D. C. The program will be opened from October 1957 until January 1958. Awards will be announced on March 18, 1958. The program will be reopened

in the summer of 1958.

Research Grants. The National Science Foundation also supports basic research in the mathematical sciences by means of grants. While proposals for such support are accepted at any time, individuals desiring support to begin in the summer or at the beginning of a fall semester should preferably submit their proposals in the mathematical sciences by November 1; persons desiring support to begin in the spring semester should preferably submit their proposals by May 1. Instructions for the preparation of proposals, contained in a booklet entitled Grants for Scientific Research, may be obtained upon request from the Program Director for Mathematical Sciences, National Science Foundation, 1520 H Street, N. W., Washington 25, D. C.

3. Office of Naval Research. The Office of Naval Research, through contracts with universities and other organizations, supports basic research in broadly selected fields of mathematics. Proposals should be directed to the Mathematics Branch, Office of Naval Research, Washington 25, D. C. In addition, postdoctoral research associateships in pure mathematics are being established under contracts with the ONR at selected universities. For details and application forms write to the above address.

3. Air Force Office of Scientific Research. The Air Force Office of Scientific Research supports research in mathematics directly through contracts with colleges, universities, foundations and industrial laboratories. Such organizations are encouraged to submit proposals for research in mathematical fields in which they specialize. Proposals should be mailed to the Commander, Air Force Office of Scientific Research, Attn: Mathematics Division, Washington 25, D.C.

4. Office of Ordnance Research, U. S. Army. Among the functions of the Office of Ordnance Research is the support of basic research in mathematics. Proposals for projects are ordinarily made by individual scientists or groups of scientists in a form which leads to a contract between the Office of Ordnance Research and a university or research laboratory. For further information write to Commanding Officer, Office of Ordnance Research, Box CM, Duke Station, Durham, North Carolina.

5. Fulbright Awards--Public Law 584 (79th Congress). Approximately 400 awards are offered annually for university lecturing and postdoctoral research in all academic fields in Australia, Burma, Chili, Colombia, Ecuador, India, New Zealand, Pakistan, Paraguay, Peru, the Philippines, Thailand (competition for the preceding countries closes April 15, 1958); Austria, Belgium-Luxembourg, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, the Netherlands, Norway, Turkey, and the United Kingdom including colonial dependencies (competition for the latter countries

closes October 1, 1958). In both cases awards are for the academic year 1959-60 (the 1958-59 competition for Europe closes October 1, 1957), but in the former group of countries the academic year begins in the spring or summer instead of the autumn. Awards are payable in foreign currency and usually include travel for the grantee, but not for members of his family, and a maintenance allowance, which may be adjusted in relation to the number of accompanying dependents up to four. Requests for information should be addressed to the Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D. C.

6. National Bureau of Standards. Naval Research Laboratory. Oak Ridge National Laboratory. Postdoctoral resident research associateships are available in a variety of sciences including mathematics and are tenable at the Washington, D. C. and Boulder, Colorado laboratories of the National Bureau of Standards; at the Naval Research Laboratory in Washington, D. C.; and at the Oak Ridge National Laboratory in Oak Ridge, Tennessee. Necessary facilities and equipment incident to the research of the associate will be provided. For further information write to Fellowship Office, National Academy of Sciences - National Research Council, 2101 Constitution Avenue, Washington 25, D. C. Applications for the 1958-59 program must be filed on or before January 13, 1958.

7. Atomic Energy Commission. The Division of Research of the Atomic Energy Commission through contracts with universities and other organizations supports research in the fields of numerical analysis, digital computer design, programming research, and related topics. Proposals should be submitted to the Division of Research, Atomic Energy Commission, 1901 Constitution Avenue, Washington 25, D. C.

Brookhaven National Laboratory. Brookhaven National Laboratory, operated by Associated Universities, Inc. under contract with the Atomic Energy Commission offers postdoctoral research appointments in mathematics. Appointments are for one year, and may be renewed for one additional year. U. S. citizenship is not required, although Atomic Energy Commission approval is a prerequisite. The appointee may work in numerical analysis, digital computing, mathematical physics, differential equations, probability and statistics, and various specialized branches including reactor theory, hydrodynamics, and orbit theory. Computational facilities are available. Letters from candidates should give details of personal history, scientific background, and qualifications; two letters of recommendation, one from the applicant's research professor, are required. Applications for the academic year 1958-59 must be received by

August 15, 1958 and should be directed to M. E. Rose, Head, Applied Mathematics Division, Brookhaven National Laboratory, Upton, Long Island, New York.

OPPORTUNITY FELLOWSHIPS OF THE JOHN HAY WHITNEY FOUNDATION FOR 1958-59. The competition for these fellowships is open to any citizen of the United States (including residents of territories) who has given evidence of special ability and who has not had full opportunity to develop his talents because of arbitrary barriers, such as racial or cultural background or region of residence. Awards have been made to the following groups: Negroes, Spanish-Americans, Chinese- and Japanese-Americans, American Indians, Residents of the Virgin Islands, Puerto Rico, Hawaii, Guam, Alaska, Samoa and the Appalachian Mountain area. Candidates are expected to be mature enough to give positive evidence of superior promise, yet young enough to have their careers before them; in general to be between the ages of 22 and 35 and to have completed their undergraduate college education. Although all factors are taken into consideration by the Committee of Award, candidates under 35 are given decided preference. The fellowships are open not only for academic study (graduate), but for any kind of training or experience (journalism, industry, labor, the arts, etc.) which may be most useful in developing varied talents and varied forms of leadership. Awards are for a full year of work. In special cases, grants may be renewed for a second year. Awards are expected normally to range from $1,000 to $3,000 depending on the nature of the proposed project and the financial need of the candidate. It is hoped that in many cases funds from other sources may supplement these awards. Awards are made annually on the basis of formal written applications by the candidates on forms provided by the John Hay Whitney Foundation, 630 Fifth Avenue, New York 20, New York. Complete applications must be filed not later than November 30, 1957. The results of the competition will be announced in the latter part of April.

THE FOURTH ANNUAL COMPUTER APPLICATIONS SYMPOSIUM sponsored by the Armour Research Foundation of the Illinois Institute of Technology will be held October 24 and 25 at the Hotel Sherman, in Chicago. New computers and applications, and advances in automatic coding, will be stressed in invited papers, panel sessions, and discussions.

October 24 will be devoted to consideration of business and management applications, and the October 25 program to science and engineering applications. The two-day registration fee of $25 includes luncheon on each day. Information concerning the conference may be obtained by writing to the Secretary, Computer Applications Symposium, Armour Research Foundation, 10 West 35th Street, Chicago 16, Illinois.

A PROGRAM OF PUBLIC LECTURES IN MATHEMATICAL STATISTICS. The Catholic University of America, Washington, D. C., announces that the program of the public lectures in the field of mathematical statistics which were given monthly during the academic year 1956-57 under the sponsorship of the National Science Foundation, will be resumed under the same sponsorship late in September of this year.

THE PERIODICALS OF THE INDIAN MATHEMATICAL SOCIETY. The Headquarters Offices of the American Mathematical Society has received a number of inquiries as to the two journals of the Indian Mathematical Society, which are the Journal of the Indian Mathematical Society and the Mathematics Student. A reciprocity agreement between the American Mathematical Society and the Indian Mathematical Society was announced in the December 1956 NOTICES and a number of the members of the AMS took advantage of this agreement. Apparently the two journals of the Indian Mathematical Society have fallen far behind schedule. A recent letter received from Professor S. Mahadevan, Secretary of the Indian Mathematical Society, states that the delay in publication is a result of the Asian flu epidemic. Apparently the copy for 1957 for both journals is now in the hands of the printer.

NEW MEMOIRS. MEMOIRS NO. 25, by Arthur Erdelyi and Charles A. Swanson, is now available. It is entitled "Asymptotic forms of Whittaker's confluent hypergeometric functions". The list price of this MEMOIR is $1.40 with the usual 25% discount to members of the Society. The principal results of the paper are uniform asymptotic forms for Whittaker's confluent hypergeometric functions $M_{k,m}(4\,kx)$ and $W_{k,m}(4\,kx)$ for unrestricted real values of x when k is large and $m \geq 0$. Two asymptotic forms for each function are obtained; one, involving Bessel functions, is valid when $x < 1$, and the other, involving Airy functions, is valid when $x > 0$. As a special case, asymptotic forms for the Coulomb wave functions $F_L(\eta,\rho)$ and $G_L(\eta,\rho)$ are derived. Simplified asymptotic forms for restricted x-intervals are deduced from the main results.

MEMOIRS No. 26, by Walter Strodt, is now available. It is entitled "Principal Solutions of Ordinary Differential Equations in the Complex Domain". The list price of this MEMOIR is $2.00 with the usual 25% discount to members of the Society. The author investigates non-linear algebraic differential equations of the nth order, with coefficients asymptotically equivalent, in a sector of the complex plane, to logarithmic monomials, i. e. to products of real powers of x, log x, loglog x,.... The author's algorithm of the principal monomial (cf. Memoir 13) is applied in two ways--first: to transform the given equation into one which is quasi-linear; second: to produce an "approximate factorization" of that quasi-linear equation

into first order linear factors. It is shown that for "almost every" given equation the canonical equation so obtained can be treated by successive approximations involving only solutions of first order non-homogeneous linear equations. In this way solutions of the given equation are found which are asymptotically equivalent to logarithmic monomials in sectors determined by critical lines whose location is specified by certain constants appearing in the canonical equation. Generalizations made to non-algebraic equations widely extend classic results of Horn.

A SERIES OF ARTICLES ON THE LIFE AND WORK OF PROFESSOR JOHN VON NEUMANN. The editors of the BULLETIN of the American Mathematical Society will dedicate the 1958 volume of the BULLETIN to the memory of Professor von Neumann, and a supplement to the May 1958 number will contain a series of articles on the life and work of the distinguished former president. The following series of articles has been planned.

1. Professor von Neumann as a mathematician and a person; his contributions to economics, to logic and the foundations of mathematics, and to the theory of computing machines; his services as a consultant to the Atomic Energy Commission, the Air Force, and other agencies. Dr. S. M. Ulam

The other articles which have been planned will probably be shorter than the first one, and each of them will deal with Professor von Neumann's contributions to one of the following fields of mathematics and science.

2. Continuous geometry, lattices, and Boolean algebra. Professor Garrett Birkhoff

3. Theory of operators. Professors Richard V. Kadison and F. J. Murray

4. Ergodic and measure theory. Professor Paul Halmos

5. Quantum mechanics. (Name of author to be announced later.)

6. Theory of games. Professors Harold W. Kuhn and A. W. Tucker

7. Theory of automata. (Name of author to be announced later.)

According to present plans, the supplement containing the seven articles will be between 80 and 120 pages in length. No rigid space limitations have been imposed, however, and the editors believe that adequate space will be available for the proper treatment of the various subjects.

Article number 1 will contain a complete bibliography of Professor von Neumann's publications. It has been suggested to the authors of the other articles that they include in their papers a selected bibliography relevant to the subject under discussion. This procedure will contribute to the readability of the separate articles and will avoid the difficulties which arise from an effort to give re-

ferences to the bibliography in the first article.

MATHEMATICAL PROFILES. The following article has been submitted to the NOTICES by Dr. A. S. Householder, who is Chairman of the Committee on Applications of Mathematics of the Division of Mathematics of the National Research Council.

Several years ago an ad hoc committee of the Division of Mathematics of the National Research Council made a survey of training and research in applied mathematics in the United States. One of the recommendations of this committee, made as a result of the survey, was that the Division establish a standing Committee on Applications of Mathematics with the following functions:

(a) To facilitate cooperation among organizations concerned with various aspects of mathematics in applied settings.

(b) To call attention to the emergence of new areas in which significant applications of mathematics may be possible.

(c) To serve as a focus for the continuing scrutiny of problems concerned with training and research in mathematics as related to its applications.

(d) To take whatever steps are deemed appropriate to enhance the effectiveness of mathematics in its applications.

Accordingly, in October, 1954, the Chairman of the Division appointed a committee of eight members, with Dean Mina S. Rees, of Hunter College, as chairman. Dean Rees continued as chairman until the summer of 1956, at which time she asked to be relieved of the chairmanship, and the present writer was appointed in her place. In accordance with the usual policy of the Council, members are regularly appointed for terms of three years with two or three replacements each year.

The Committee met soon after it was formed to determine a course of action, and for reasons that hardly need elaboration here, its attention quickly centered on problems of training. Its major concern has been with the growing demands for mathematicians in government and industry, and the insufficient numbers of students being prepared to meet these demands. This problem, it seemed, must be attacked at the high school level, and Dean Rees proposed a project which is now well under way and will perhaps be of interest to others.

While doubtless many factors contribute in tending to repel even superior students from courses in mathematics, one of the important factors is lack of information about the careers that are open to mathematicians, and a scant and often distorted conception of mathematicians and their activities. The Committee felt that a good contribution toward making mathematics interesting might be made by attempting to make mathematicians interesting. It seemed that this could be done best by presenting sketches, or profiles in the sense of the New Yorker magazine, of real, live mathematicians.

Since the profiles are to be designed for high school students, it seemed clear that the mathematicians profiled should be not too old, should be interesting and engaged in interesting work, and should be outstanding. Further, there should be women as well as men. Since many high school students are apt to consider a doctor's degree quite unattainable, many if not most should be at the bachelor's or master's level academically. And since the object is to make it known that nonademic opportunities exist, most should be in nonacademic employment.

It is hoped that eventually these profiles will be assembled and printed in a little brochure, to be made available at no cost to high school students, as well as their teachers and counsellors. With this in mind, funds were requested from the National Science Foundation to finance the necessary interviews, writing, printing, and distribution. At present, funds have been made available for interviewing and writing, and it is to be hoped that the funds for distribution will be forthcoming when needed.

As can be imagined, the task of selecting the profilees was not a simple one, and the Committee does not claim to have made the best possible choices. It was thought that eight or ten profiles would be sufficiently representative, and that a larger number might repel the prospective reader. But to ameliorate the difficulties somewhat, twenty names were chosen, and the profiles to be published in the brochure will be selected from among the twenty that will actually be prepared. For selecting these twenty, letters were sent to a number of governmental and industrial employers of mathematicians, requesting nominations with a brief sketch of the background, interests, and achievements of each nominee. Responses to these letters, together with some nominations by members of the Committee, yielded a list of about fifty or so, and the Committee voted on these.

As plans were being formulated, it came to the attention of the Committee that the National Council of Teachers of Mathematics had requested the National Science Foundation for funds for preparing and distributing a brochure setting forth the cultural values of mathematics and the mathematical requirements of various occupations. After some discussion between the two groups, it was agreed to join forces and to include the statement of requirements in the same brochure with the profiles.

The interviewing and writing are now under way, and are being done by a professional writer engaged for the purpose by the National Research Council. While funds for printing and distribution are not yet assured, it is to be hoped that they can be had, or that some other means of publication can be found. The present article is written to inform others interested in these problems of one specific endeavor that is being made to improve the future level of ap-

plied mathematics. Moreover, the present chairman of the Committee on Applications of Mathematics will welcome any suggestions for future projects, and doubtless the same will hold for his successors.

PUBLICATION CHARGES. The Society finds it advisable to give publicity from time to time to the fact that, along with many other professional societies, publication charges are assessed against contributed articles published in certain of the Society's journals. The establishment of publication charges was approved by the Council and the Board of Trustees of the Society in the fall of 1949, and the charges became effective in 1950.

The publication charges are applicable to contributed papers published in the PROCEEDINGS or in the TRANSACTIONS which are credited to nonmember institutions, and to other organizations, in the North American area. The charge for publication in these journals is at present $20.00 per page. It is used to help defray the cost of printing and of providing the author with a minimum number of reprints.

The institution or organization credited with the research presented in a paper is requested to pay the publication charge. It is not considered to be a personal obligation of the author as an individual.

Institutional members of the Society pay dues roughly proportional to the research activity of the members of their respective staffs. They are exempt from the publication charge. Institutional memberships were established in 1934, and are restricted to academic institutions. Through membership, institutional members enjoy additional privileges and avoid the inconvenience of paying a separate charge for each article published.

The cost of publishing research papers in mathematics is high and usually cannot be met from the sale of the publication. One of the major activities of the Society since its founding has been to provide appropriate media of publication for all contributed manuscripts meeting its editorial standards. In recent years, after credit for all sales, subscriptions, and other direct income, the net deficit from journal publishing activities has been more than $100,000 per year. This exceeds the total income from individual, institutional, and corporate dues. Moreover, the Society must support many other costly activities directed toward the maintenance of good communications between mathematicians. From this it can be seen that the assessment of publication charges is a necessity if the mission of the Society is to be adequately fulfilled.

SUBSCRIPTIONS AND MEMBERSHIPS TAKEN OUT BY CORPORATIONS AND OTHER ORGANIZATIONS IN THE NAME OF INDIVIDUALS. These are regarded as irrevocable and non-transferable gifts of the organizations to the individuals concerned. If an individual so subsidized leaves a corporation, his membership and subscriptions theoretically go with him. It may happen, under these circumstances, that he wishes to donate one or more of his subscriptions to his former employer. The Society will accept an instruction to this effect. Actually, as a matter of operating expediency, if a man leaves the employ of an organization without leaving a forwarding address, and if one or more of his subscriptions are being addressed to the organization, the Society will naturally continue sending the subscription to the organization until instructed to do otherwise. But in getting in touch with this individual, it will be emphasized to him that he owns the membership and the subscriptions.

The philosophy behind this policy is that individual membership in the Society is a non-transferable personal privilege of a human individual (but not of an institution or corporation), granted to him or her through election by the Council.

A NEW ASSOCIATE DIRECTOR FOR RESEARCH OF THE NATIONAL SCIENCE FOUNDATION. The NSF has announced the appointment of Dr. Paul E. Klopsteg as Associate Director for Research. Dr. Klopsteg will be responsible for the Foundation's activities in the support of basic research in the sciences. Dr. Klopsteg has long been associated with the administration of research. During World War II he served in various administrative capacities with the OSRD and the military establishment. He has been Professor of Applied Science and Director of Research of the Northwestern Technological Institute, Evanston, Illinois, and is now a professor emeritus at Northwestern.

CORRECTIONS. In the 1956 COMBINED MEMBERSHIP LIST, Dr. H. W. Kuhn of Bryn Mawr College should have been listed as an Associate Professor instead of an Assistant Professor. The error was repeated on page 51 of the August issue of the NOTICES.

In the August 1957 issue of the NOTICES, it was stated on page 57 that Dr. P. R. Halmos of the University of Chicago had been appointed a member of the Institute for Advanced Study. It should have been made clear that Professor Halmos is on leave from the University of Chicago and that his appointment as a member of the Institute for Advanced Study is not a permanent appointment.

In the August 1957 NOTICES it was stated that Dr. L. C. Barrett of the University of Utah has been appointed to an Associate Professorship at the South Dakota School of Mines and Technology. This item should have read as follows: Associate Professor L. C. Barrett of Arizona State University has been appointed to an associate professorship at the South Dakota School of Mines and Technology.

PERSONAL ITEMS

(This section is restricted to members of the Society)

The Carnegie Corporation of New York has announced a grant for the development of a new approach to the teaching of mathematics Illinois Institute of Technology: Professor Karl Menger.

Associate Professor B. H. Arnold of Oregon State College has received a Fulbright award for the year 1957-58 and will be at the U. S. Educational Foundation in Baghdad, Iraq.

Professor Iacopo Barsotti of the University of Pittsburgh has been awarded a Fulbright grant to lecture at the Scuola Normale Superiore di Pisa for 1957-58.

Mr. Leonard E. Baum of Harvard University has been awarded a National Science Foundation Postdoctoral Fellowship at the University of Chicago.

Associate Professor C. L. Dolph of the University of Michigan has been granted a Guggenheim Fellowship and will be on sabbatical leave during 1957-58.

Professor Herbert Federer has been awarded a grant from the Sloan Foundation and is on leave from Brown University for the year 1957-58.

Dr. David Hertzig of the University of Chicago has received a National Science Foundation Postdoctoral Fellowship at the Institute for Advanced Study.

Professor F. B. Jones of the University of North Carolina has been awarded a National Science Foundation Fellowship at the Institute for Advanced Study.

Professor Kunihiko Kodaira of Princeton University and a member of the Institute for Advanced Study, has been awarded The Prize of The Japan Academy for his distinguished achievements in the field of mathematics.

Associate Professor W. J. LeVeque of the University of Michigan has been granted a Sloan Foundation Fellowship for 1957-58.

Dr. G. W. Medlin of Wake Forest College has been awarded a National Science Foundation Science Faculty Fellowship to study a year at E. T. H. in Zurich, Switzerland.

Professor Everett Pitcher of Lehigh University received the honorary degree of Doctor of Science from Western Reserve University on the twenty-fifth anniversary of his degree of Bachelor of Arts.

Professor Erich Rothe of the University of Michigan has been granted a Guggenheim Fellowship and will be on sabbatical leave during 1957-58.

Mr. W. F. Stinespring of the University of Chicago has been awarded a postdoctoral National Science Foundation Fellowship at the Institute for Advanced Study.

Dr. J. H. Walter of the University of Washington has been awarded

ed a National Science Foundation Postdoctoral Fellowship at the Institute for Advanced Study.

Assistant Professor Smbat Abian of the University of Tennessee has been appointed to an assistant professorship at Queens College.

Assistant Professor F. W. Anderson of the University of Nebraska has been appointed to an assistant professorship at the University of Oregon.

Dr. J. J. Andrews of the University of Georgia has accepted a position as mathematician for Union Carbide Nuclear Company, Oak Ridge, Tennessee.

Mr. Joseph Auslander of the University of Pennsylvania has been appointed to an assistant professorship at Carnegie Institute of Technology.

Dr. Louis Auslander of Yale University has been appointed to an assistant professorship at Indiana University.

Dr. G. E. Backus of Yerkes Observatory has accepted a position as staff member, Project Matterhorn, Princeton University.

Assistant Professor W. R. Ballard of Wright-Patterson Air Force Base has been appointed to an assistant professorship at Montana State University.

Mr. J. D. Barab, Jr. of Michigan State University has accepted a position as engineer for Melpar, Inc., Falls Church, Virginia.

Dr. R. H. Battin of Massachusetts Institute of Technology has accepted a position as mathematician on the staff of Arthur D. Little, Inc., Operations Research Group.

Mr. H. F. Bechtell, Jr. of the University of Wisconsin has been appointed to an assistant professorship at Grove City College.

Dr. S. K. Berberian of the Michigan State University has been appointed to an assistant professorship at State University of Iowa.

Professor R. H. Bing of the University of Wisconsin is on leave and has been appointed a member of the Institute for Advanced Study.

Mr. Göran Björch of the University of Stockholm is on leave and has been appointed a member of the Institute for Advanced Study.

Assistant Professor R. L. Blair of Michigan State University has been appointed to an assistant professorship at the University of Oregon.

Mr. S. R. Boyle of Hughes Aircraft Company has accepted a position as a member of the technical staff of General Electric Company, Santa Barbara, California.

Associate Professor B. W. Brewer of Oregon State College has been appointed to a professorship at Texas Agricultural and Mechanical College.

Associate Professor Paul Brock of Purdue University is on leave and has accepted a position at the Willow Run Research Center, University of Michigan.

Miss Lena C. Brown of Southern University has accepted a po-

sition as mathematician for the Weather Bureau, Department of Commerce, Suitland, Maryland.

Dr. B. D. Bucher of Princeton University has accepted a position as technical staff member, Institute for Defense Analyses, Defense Department, Washington, D. C.

Assistant Professor J. R. Buchi of the University of Illinois has been appointed to a visiting professorship at the University of Notre Dame.

Mr. R. C. Bzoch of Illinois Institute of Technology has been appointed to an assistant professorship at the University of Minnesota.

Associate Professor G. F. Clanton of Baylor University has been appointed lecturer at the University of Minnesota.

Professor C. L. Clark of Oregon State College has been appointed to a professorship at Los Angeles State College of Applied Arts and Sciences.

Mr. W. H. Colbert, Jr. of the University of Nevada has accepted a position as engineer for the Northrop Aircraft Inc., Hawthorne, California.

Dr. Jane C. Cronin of New York, New York has been appointed to an assistant professorship at Polytechnic Institute of Brooklyn.

Dr. Chandler Davis of Columbia University is on leave and has been appointed a member of the Institute for Advanced Study.

Mr. J. H. De Boer of Johns Hopkins University has been appointed a teacher at Tech. Hogeschool, Insulindelaan, Eindhoven, Netherlands.

Associate Professor René De Vogelaere of the University of Notre Dame has been appointed to a visiting associate professorship at the University of California, Berkeley.

Dr. Gus DiAntonio of Bell Aircraft Corporation has accepted a position as senior engineer for The Martin Company, Baltimore, Maryland.

Dr. B. M. Dwork of Harvard University has been appointed to an assistant professorship at Johns Hopkins University.

Dr. W. F. Eberlein of New York University has been appointed to a professorship at the University of Rochester.

Assistant Professor Leon Ehrenpreis of Johns Hopkins University has been appointed to an associate professorship at Brandeis University.

Associate Professor Bernard Epstein is on leave from the University of Pennsylvania and has been appointed to an associate professorship at Stanford University.

Assistant Professor C. C. Faith of Michigan State University has been appointed to an assistant professorship at Pennsylvania State University.

Mr. J. P. Falvey of Johns Hopkins University has accepted a position as mathematician for the Naval Research Laboratory,

Washington, D. C.

Professor Ky Fan of the University of Notre Dame has accepted a position on the staff of the Mathematics Panel, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Dr. A. V. Fend of New Mexico College of Agriculture and Mechanic Arts accepted a position at Technical Operations, Inc., Monterey, California.

Mr. C. T. Fike of University of North Carolina has accepted a position as director of the Oracle Applications Program, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee.

Dr. Irwin Fischer of Dartmouth College has been appointed to an assistant professorship at the University of Colorado.

Dr. L. R. Ford of Rand Corporation has accepted a position as Director of Operations Research, General Analysis Corporation, Sierra Vista, Arizona.

Acting Professor K. A. Fowler of State University Teachers College, New Paltz, New York, has been appointed to an assistant professorship at San Jose State College.

Mr. D. A. Franks of the U. S. Army has accepted a position as mathematician for Westinghouse Electric Corporation, Baltimore, Maryland.

Assistant Professor J. W. Gaddum of Michigan State University has been appointed to an assistant professorship at the University of Florida.

Dr. Jesus Gil de Lamadrid of Ohio State University has been appointed to an assistant professorship at the University of Minnesota.

Professor Casper Goffman of the University of Oklahoma is on leave and has been appointed to a visiting professorship at Purdue University.

Professor Michael Golomb of Purdue University is on leave and has been appointed a visiting member of the Mathematics Research Center, University of Wisconsin.

Dr. Donald Greenspan of Hughes Aircraft Company has been appointed to an assistant professorship at Purdue University.

Mr. J. H. Griesmer of Princeton University has accepted a position as associate mathematician for International Business Machines Research Center, Ossining, New York.

Assistant Professor E. L. Griffin, Jr. of the University of Michigan is on leave and has been appointed to a visiting professorship at Columbia University.

Dr. Violet B. Haas of the University of Connecticut has been appointed to an assistant professorship at the University of Detroit.

Dr. D. W. Hall of Amherst College has been appointed to an assistant professorship at Michigan State University.

Dean Henson Harris of Wayland Baptist College has been appointed dean of Georgetown College.

Dr. Juris Hartmanis of Cornell University has been appointed to

an assistant professorship at the Ohio State University.

Mr. W. E. Hartnett of the University of Kansas has been appointed to an assistant professorship at the College of the Holy Cross.

Dr. H. G. Helfenstein of the University of Alberta has been appointed to a visiting assistant professorship at the University of Ottawa.

Dr. R. L. Helmbold of Carnegie Institute of Technology has accepted a position as operations analyst with Technical Operations, Inc., Fort Monroe, Virginia.

Dr. L. L. Helms of Convair has been appointed to an assistant professorship at Michigan State University.

Assistant Professor C. S. Herz of Cornell University is on leave and has been appointed a member of the Institute for Advanced Study.

Dr. T. W. Hildebrandt of Oak Ridge National Laboratories has been appointed to an assistant professorship at Ohio State University.

Mr. D. B. Hoagland of the University of Missouri has been appointed to an assistant professorship at Central College.

Assistant Professor S. P. Hoffman, Jr. of Polytechnic Institute of Brooklyn has been appointed to an assistant professorship at Trinity College.

Dr. J. A. Hummel of Stanford University has been appointed to an assistant professorship at the University of Maryland.

Dr. L. C. Hunter of the University of Oregon has accepted a position as senior mathematician at the Electronic Defense Laboratory, Sylvania Electric Products, Inc., Mt. View, California.

Assistant Professor W. E. Jenner of Northwestern University has been appointed to an associate professorship at Bucknell University.

Dr. W. G. Johnson of Southern Illinois University has been appointed to a professorship at Hiram College.

Dr. R. F. King of Midwestern Universities Research Association has accepted a position as associate mathematician at the Argonne National Laboratory, Lemont, Illinois.

Assistant Professor Evelyn K. Kinney of Illinois Wesleyan University has been appointed to an assistant professorship at Kansas State College.

Associate Professor W. E. Koss of the Agricultural and Mechanical College of Texas has been appointed to an associate professorship at Louisiana Polytechnic Institute.

Dr. W. T. Kyner of New York University has accepted a position as mathematician in the Applied Mathematics Department of Shell Development Company, Emeryville, California.

Dr. A. G. Laurent of Michigan State University has been appointed to an associate professorship at Wayne State University.

Dr. Joseph Lehner of Los Alamos Scientific Laboratories has been appointed to a visiting professorship at Michigan State Univers

Dr. W. W. Leutert of Lockheed Missile Systems Division has accepted a position on the Electronic Computer Applications Staff of Tidewater Oil Company, San Francisco, California.

Professor L. L. Lowenstein of Kent State University has been appointed to a professorship at Arizona State College.

Dr. H. F. J. Lowig of the University of Tasmania has been appointed to an associate professorship at the University of Alberta.

Dr. R. A. Macauley of the University of California, Berkeley, has been appointed to an assistant professorship at the University of Washington.

Dr. Nathaniel Macon of the General Electric Company has been appointed to an associate professorship at Alabama Polytechnic Institute.

Dr. Teruhisa Matsusaka of the University of Chicago has been appointed to a visiting associate professorship at Northwestern University.

Dr. Jorg W. P. Mayer-Kalkschmidt of the University of Malaya has been appointed to an assistant professorship at the University of New Mexico.

Assistant Professor J. H. McKay of Michigan State University has been appointed to an assistant professorship at Seattle University.

Mr. Bert Mendelson of Columbia University has been appointed to an assistant professorship at Smith College.

Associate Professor D. M. Merriell of Robert College has been appointed to an assistant professorship at Santa Barbara College, University of California, Goleta, California.

Dr. D. M. Mesner of Purdue University has accepted a position as research associate in the Statistical Engineering Laboratory of the National Bureau of Standards, Washington, D. C.

Assistant Professor W. E. Mientka of the University of Nevada has been appointed to an assistant professorship at the University of Nebraska.

Mr. J. T. Morse of Carter Oil Company has accepted a position on the senior staff of Operations Research, Arthur Andersen and Company, Chicago, Illinois.

Mr. Duncan Morrill of the U. S. Army has accepted a position as assistant engineer for Western Electric Company, Winston-Salem, North Carolina.

Mr. A. A. Mullin of the Massachusetts Institute of Technology has been appointed a member of the Mathematics Department of the Digital Computer Laboratory, University of Illinois.

Assistant Professor Peter Musen of the University of Cincinnati has accepted a position as research mathematician for the Continental Oil Company, Ponca City, Oklahoma.

Dr. J. W. Odle of the U. S. Air Force has accepted a position

as mathematician with Engineering Research Institute, University of Michigan.

Dr. B. J. Pearson of Illinois Institute of Technology has been appointed to an assistant professorship at Kansas State College.

Mr. G. B. Pedrick of the University of Kansas has been appointed to an assistant professorship at Purdue University.

Professor W. H. Peirce of Michigan State University has accepted a position as analyst for General Dynamics Corporation, Groton, Connecticut.

Dr. D. P. Peterson of the University of Oregon has accepted a position as staff member of the Systems Analysis Department of Sandia Corporation, Albuquerque, New Mexico.

Mr. D. L. Phillips of Purdue University has accepted a position as assistant mathematician at the Argonne National Laboratory, Lemont, Illinois.

Dr. D. A. Pope of the University of California, Los Angeles, has been appointed to an assistant professorship at the University of Minnesota.

Mr. W. O. Portmann of Case Institute of Technology has accepted a position as aeronautical research scientist at the Lewis Flight Propulsion Laboratory of the National Advisory Committee for Aeronautics, Cleveland, Ohio.

Assistant Professor Howard Raiffa of Columbia University has been appointed to an associate professorship at Harvard University.

Mr. H. J. Rebassoo of the University of Wisconsin has been appointed to an associate professorship at Luther College.

Professor W. T. Reid of Northwestern University has been appointed to a professorship at the University of California, Los Angeles.

Associate Professor R. W. Rempfer of Fisk University has been appointed to an associate professorship at Portland State College.

Dr. Frank Rhodes of the Institute for Advanced Study has been appointed a lecturer at the University of Southampton.

Dr. Donald Eugene Richmond of CONVAIR, Fort Worth, Texas has accepted a position as manager of Data Processing at Texas Instruments, Inc., Dallas, Texas.

Dr. Jacques Riguet of the University of Paris has accepted a position as mathematician for International Business Machines, Adliswil-Zurich, Switzerland.

Dr. D. S. Rim of Indiana University has accepted a position as research associate for the Office of Naval Research, Columbia University.

Dr. G. B. Robison of the University of Connecticut has been appointed to an associate professorship at State University Teachers' College, New Paltz, New York.

Mr. J. N. Rogers of the University of Wisconsin has accepted a position as analyst with General Electric Company, Vallecitos

Atomic Laboratory, Pleasanton, California.

Mr. Jerome Sacks of the California Institute of Technology has been appointed to an assistant professorship at Columbia University.

Professor E. A. Saibel of Carnegie Institute of Technology has been appointed to a visiting professorship at Rensselaer Polytechnic Institute.

Assistant Professor R. L. San Soucie of the University of Oregon has accepted a position as head of Mathematics Research Department of Sylvania Electric Products, Inc., Buffalo, New York.

Dr. I. R. Savage of Stanford University has been appointed to an associate professorship at the School of Business Administration, University of Minnesota.

Dr. J. A. Schatz of the University of Connecticut has accepted a position as staff member at Sandia Corporation, Albuquerque, New Mexico.

Dr. Alfred Schild of Westinghouse Research Laboratories has been appointed to a professorship at the University of Texas.

Professor H. S. C. Sharp of the U. S. Coast Guard Academy has been appointed to an associate professorship at Purdue University.

Assistant Professor Edward Silverman of Michigan State University has been appointed to an associate professorship at Purdue University.

Mr. K. F. Simpson, Jr. of Johns Hopkins University has accepted a position as staff member, Operations Research Group of Arthur D. Little, Inc., Cambridge, Massachusetts.

Mr. Malcolm Smith of Motorola, Inc., has accepted a position as senior research engineer at CONVAIR, Pomona, California.

Assistant Professor C. J. Standish of Union College has accepted a position as associate mathematician with International Business Machines Corporation, Vestal, New York.

Assistant Professor R. G. Stanton of the University of Toronto has been appointed to a professorship at Waterloo College.

Assistant Professor T. D. Sterling of the University of Alabama has been appointed a research associate at the Willow Run Research Laboratory, University of Michigan.

Dr. D. A. Storvick of Iowa State College has been appointed to an assistant professorship at the University of Minnesota.

Assistant Professor D. D. Strebe of the University of South Carolina has been appointed to a professorship at Teachers College at Oswego, State University of New York.

Associate Professor D. R. Sudborough of Central Michigan College has been appointed to an assistant professorship at San Jose State College.

Dr. Olga Taussky of the National Bureau of Standards has been appointed a research associate at the California Institute of Technology.

Dr. F. B. Thompson of General Analysis Corporation has accepted a position as manager of Operations Analysis, General Electric Company, Tucson, Arizona.

Mr. John Todd of the National Bureau of Standards has been appointed to a professorship at the California Institute of Technology.

Dr. Bryant Tuckerman of the Institute for Advanced Study has accepted a position as mathematician with the International Business Machines Corporation, Ossining, New York.

Dr. J. B. Tysver of the University of Michigan has accepted a position as research specialist at the Boeing Airplane Company, Seattle, Washington.

Dr. H. S. Valk of Washington University has been appointed to an assistant professorship at the University of Oregon.

Visiting Associate Professor H.-C. Wang of Columbia University has been appointed to an associate professorship at Northwestern University.

Dr. W. R. Wasow of the U. S. Army Mathematics Research Center has been appointed to a professorship at the University of Wisconsin.

Dr. R. H. Wasserman of the University of Michigan has been appointed to an assistant professorship at Michigan State University.

Mr. F. R. White of the University of Buffalo has accepted a position as mathematician for Sylvania Electric Products Inc., Mountain View, California.

Dr. E. L. Whitney of the Defence Research Board has been appointed to an assistant professorship at the University of Alberta.

Dr. R. A. Willoughby of the Atomic Energy Division of the Babcock and Wilcox Company has accepted a position as mathematician with the International Business Machines Corporation, Yorktown Heights, New York.

Professor L. T. Wilson of State Teachers College, Jacksonville, Alabama has been appointed to a professorship at Doane College.

Assistant Professor F. M. Wright of Iowa State College has been appointed to a visiting assistant professorship at the University of Michigan.

Mr. A. W. Yonda of Temple University has accepted a position as associate scientist for Avco, Research and Advance Development Division, Lawrence, Massachusetts.

Mr. L. N. Zaccaro of Georgetown University has been appointed to an assistant professorship at the University of Rhode Island.

The following promotions are announced:

S. A. Amitsur, Hebrew University, to an associate professorship.

R. C. F. Bartels, University of Michigan, to a professorship.

Raoul Bott, University of Michigan, to a professorship.

Eugenio Calabi, University of Minnesota, to an associate professorship.

J. W. Carr, III, University of Michigan, to an associate professorship.

E. C. Casale, Temple University, to an assistant professorship.

A. B. Clarke, University of Michigan, to an assistant professorship.

Haskell Cohen, Louisiana State University, to an associate professorship.

H. G. Cohen, Rensselaer Polytechnic Institute, to a professorship.

H. S. Collins, Louisiana State University, to an associate professorship.

J. W. Ellis, Florida State University, to an associate professorship.

B. A. Fleishman, Rensselaer Polytechnic Institute, to an associate professorship.

B. R. Gelbaum, University of Minnesota, to a professorship.

H. C. Griffith, Florida State University, to an associate professorship.

Mary-Elizabeth Hamstrom, Goucher College, to an associate professorship.

G. K. Kalisch, University of Minnesota, to a professorship.

L. H. Kanter, Drexel Institute of Technology, to an associate professorship.

M. L. Keedy, University of Nebraska, to an assistant professorship.

A. J. Lohwater, University of Michigan, to an associate professorship.

D. W. Miller, University of Nebraska, to an assistant professorship.

Barrett O'Neill, University of California, Los Angeles, to an assistant professorship.

Steven Orey, University of Minnesota, to an assistant professorship.

K. M. Siegel, University of Michigan, to a professorship.

R. A. Struble, Illinois Institute of Technology, to an associate professorship.

René Thom, University of Strasbourg, to a professorship.

J. G. Wendel, University of Michigan, to an associate professorship.

Albert Wilansky, Lehigh University, to a professorship.

F. M. Wright, Harpur College, State University of New York, to an associate professorship.

Gail S. Young, University of Michigan, to a professorship.

The following appointments to instructorships are announced:

Cornell University: Dr. Costas Kassimatis, Dr. May R. Kinsolving; Georgetown University: Mr. Henry Beiman; Harvard University:

Dr. G.-C. Rota; Illinois Institute of Technology: Dr. J. W. Neuberger; Marquette University: Mr. W. G. Weideman; Massachusetts Intitute of Technology: Dr A. M. Garsia, Dr. R. A. Kunze; Michigan State University: Mr. Yousef Alavi, Mr. R. E. Sechler; University of Michigan: Dr. D. S. Greenstein, Dr. N. J. Hicks, Dr. E. T. Parker; University of Minnesota: Dr. D. G. Aronson; University of Nebraska: Mr. W. R. Abel; Northwestern University: Dr. R. R. Goldberg; Princeton University: Mr. G. O. Losey, Dr. J. R. Munkres; University of Rochester: Mr. D. E. Schroer; Stanford University: Mr. J. W. Lamperti; University of Virginia: Dr. R. T. Ives; Williams College: Mr. M. J. Poliferno; Yale University: Dr. A. B. Simon, Dr. Norman Stein.

Deaths:

Dr. S. U. Benscoter of Aerophysics Development Corporation died May 27, 1956 at the age of forty-five years. He had been a member of the Society for eighteen years.

Professor Michael Fekete of The Hebrew University died May 13, 1957 at the age of seventy-one years.

Professor C. R. Mitchell of Rhode Island College of Education died at the age of forty-six years.

Dr. A. R. Schweitzer of Lake Forest, Illinois died June 12, 1957 at the age of eighty years. He had been a member of the Society for fifty-one years.

Professor Egon Ullrich of the University of Giessen died May 30, 1957 at the age of fifty-five years.

Professor Robert L. Westhafer of New Mexico College of Agriculture and Mechanic Arts died July 3, 1957 at the age of forty-six years.

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The following item may be ordered from: The Ohio State University Press, Columbus 10, Ohio.

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